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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,004	12/06/2000	Fumitoshi Sato	P/1071-1160	8848

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EXAMINER

KINKEAD, ARNOLD M

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 07/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,004

Applicant(s)

SATO

Examiner

Arnold Kinkead

Group Art Unit

2817

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 3/25/04 / 28/02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-14 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-14 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis(US 5,748,051) in view of Razavi(RF Microelectronics,1998).

The reference by Lewis discloses a microwave oscillator(see figure 2, w/o varactor). The amplifier being an NPN transistor with emitter coupled to the resonance element(207,301) forming a band-pass filter for low phase noise output.

The reference does not show a dielectric or other type of resonant filter for providing a 3db bandwidth as claimed. Lastly, a MMIC type construction is not mentioned for the amplifier and resonance circuit.

The microwave oscillator as shown in the reference would be fabricated, as notoriously well known in the art, with conventional monolithic microwave integrated circuit techniques as a simple matter of design consideration, well within the level of skill for one of ordinary skill in the art, especially for the packaging benefits in the RF market. The use of 3db type bandwidth design also being well within the level of skill, in addition to the type of resonant element, be it a LC

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tank, piezoelectric, or dielectric resonator; all are conventional resonant elements that are designed to select a particular frequency of operation, within a 3db band as is notoriously well known in the RF art. This is supported by Razavi, pp214-218, showing the 3db bandwidth design and the reduction of phase noise.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the microwave oscillator of Lewis could be designed with various conventional resonant elements as noted above, to select a particular frequency(3db band) as suggested by Razavi and MMIC techniques would be within the skill set for one of ordinary skill in the art for the specific frequency band of interest.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Amesfoort(US 5,712,596) in view of Razavi(RF Microelectronics,1998).

The reference by Van Amesfoort discloses an oscillator(see figure 2). The amplifier being an NPN transistor with emitter coupled to the resonance element(CF1,LF1) forming a band-pass filter for low phase noise output(see col. 7, lines 14-40). The filter is coupled to the input and output of the amplifier transistor T01.

The reference does not show a dielectric or other type of resonant filter for providing a 3db bandwidth as claimed. Lastly, a MMIC type construction is not mentioned for the amplifier and resonance circuit.

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The microwave oscillator as shown in the reference would be fabricated, as notoriously well known in the art, with conventional monolithic microwave integrated circuit techniques as a simple matter of design consideration, well within the level of skill for one of ordinary skill in the art, especially for the packaging benefits in the RF market. The use of 3db type bandwidth design also being well within the level of skill, in addition to the type of resonant element, be it a LC tank, piezoelectric, or dielectric resonator; all are conventional resonant elements that are designed to select a particular frequency of operation, within a 3db band as is notoriously well known in the RF art. This is supported by Razavi, pp214-218, showing the 3db bandwidth design and the reduction of phase noise.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the microwave oscillator of Van Amesfoort could be designed with various conventional resonant elements as noted above, to select a particular frequency(3db band) as suggested by Razavi and MMIC techniques would be within the skill set for one of ordinary skill in the art for the specific frequency band of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Kinhead whose telephone number is (703) 305-3486. The examiner can normally be reached on Mon to Fri from 8:30 am to 5 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Arnold Kinkead

July 8, 2002


ARNOLD KINKEAD
PRIMARY EXAMINER